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10/767,236	01/28/2004	Shaun Kazuo Wakumoto	200313910-1	4767

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EXAMINER	
WONG, BLANCHE	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,236	WAKUMOTO ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,8,11-14 and 19-22* is/are rejected.

7)☒ Claim(s) *4-7,9,10 and 15-18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *Jan'04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: Examiner suggests removing the parentheses because limitations within parentheses are not considered part of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claim 1** is rejected under 35 U.S.C. 102(e) as being aniticipated by Yamada (US 2003/0108069).

With regard to claim 1, Yamada discloses **(extended header terminator 10 in Fig. 1)**

receiving a packet **(71a_1 in Fig. 2, para. [0101])** to broadcast through the network of switches;

selecting a broadcast path **(a remote address table 12a and port identifier PortID, para. [0013])** from a plurality of generated broadcast paths;

creating a broadcast path tag **(tag generator 11a, para. [0113])** associated with the selected broadcast path;

inserting **(adds)** the broadcast path tag **(Tag_a, para. [0113])** (***See Also*** **"... adds the 'port identifier PortID' to the packet 71a_1", para. [0113] and "... adds to the packet 70a_1 the 'broadcast identifier BID'", para. [0115])** into the packet;

determining port(s) **(port identifier PortID, para. [0013])** by which to forward the packet; and

transmitting the packet **(tag generator 11a, para. [0113])**, with the broadcast path tag embedded therein, via the port(s) **(port identifier PortID, para. [0013])** to next switch(es) **(switch 300 in Fig. 1)** in accordance with the selected broad path.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view or admitted prior art Fig. 2.

With regard to claim 2, Yamada discloses the method of claim 1. However, Yamada fails to explicitly show a spanning tree and an owner switch at a root of a spanning tree.

Fig. 2 discloses a spanning tree **(p.7, para. 2)** and an owner switch at a root of a spanning tree **(a spanning tree where the owner switch is at the root of the tree, p.9, para. 2)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a spanning tree and an owner switch at a root of a spanning tree as taught in Fig. 2, with Yamada, for the benefit of a spanning tree topology protocol used to discover the existence of redundant communication paths.

6. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada.

With regard to claim 3, Yamada discloses the method of claim 1. Yamada further discloses a tag comprising a code indicating a broadcast **(BID)** and a path identifier **(PortID) (port identifier PortID' to the packet 71a_1", para. [0113] and "... adds to the packet 70a_1 the 'broadcast identifier BID'", para. [0115])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a source switch identifier in a tag to identify the source and to facilitating delivery from source to destination.

7. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of Henrion (U.S. Pat NO. 5,461,615).

With regard to claim 8, Yamada discloses the method of claim 1. However, Yamada fails to explicitly show multipath broadcasting in that different broadcast paths are selected to broadcast packets depending on specific criteria.

Henrion discloses different broadcast **(capable of carrying out routing with broadcasting, col. 9, lines 44-45)** paths **(groups of outputs LG1,LG2,LG3 in Fig. 5, col. 9, line 47)** are selected to broadcast packets depending on specific criteria **(an**

internal routing label) ("...a cell is supplied to the input LP1 with an internal routing label comprising the identifier A1...", col. 9, lines 50-51).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine multipath broadcasting in that different broadcast paths are selected to broadcast packets depending on specific criteria as taught in Henrion, with Yamada, for the benefit of multipath broadcasting.

8. **Claim 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art Fig. 1 in view of Baumert et al. (U.S. Pat No. 6,067,300).

With regard to claim 11, Fig. 1 discloses

a plurality of ports **(through a port on switch S1 106 and a port on switch S4 112, p. 7, para. 1)** and multiple broadcast paths **(three possible paths between S1 and S4, p.7, para. 1)** from a source switch **(S1)** and switching mesh **(Fig. 1)**.

However, Fig. 1 fails to explicitly show a switch control device coupled to the plurality of ports.

Baumert discloses a switch control device **(switch controller 23 in Fig. 1)** coupled to the plurality of ports **(ports 1-N in Fig. 1)**,

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a switch control device coupled to the plurality of ports as

taught in Baumert, with Fig. 1, for the benefit of a switch control device to optimize the transfer of data packets.

With regard to claim 12, the combination of Fig. 1 and Baumert discloses the switching device of claim 11.

Baumert further discloses ASIC **(ASIC, col. 11, line 28)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine ASIC as taught in Baumert, with Fig. 1, for the benefit of a single integrated circuit package.

With regard to claim 13, the combination of Fig. 1 and Baumert discloses the switching device of claim 11.

Baumert further discloses central processing unit **(CPU, col. 11, line 28)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a CPU as taught in Baumert, with Fig. 1, to execute computer code.

With regard to claim 14, the combination of Fig. 1 and Baumert discloses the switching device of claim 11.

Baumert further discloses central processing unit **(CPU, col. 11, line 28)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a CPU as taught in Baumert, with Fig. 1, to execute computer code.

9. **Claims 19 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Durinovic-Johri et al. (US 2002/0176359) in view of Chow et al. (U.S. Pat No. 5,495,471).

With regard to claim 19, Durinovic-Johri discloses a network of multiple paths comprising

generating multiple broadcast paths **(generate multiple paths)** by an algorithm **(algorithm) (K-shortest path algorithm and the K-diverse-shortest path algorithm ... to generate multiple paths, para. [0029])** in a source switch **(router 12, para. [0029])**.

However, Durinovic-Johri fails to explicitly show broadcasting a broadcast path generation packet for each generated broadcast path out from the source switch to remaining switches in the switching mesh.

Chow discloses a network of multiple path comprising

broadcasting **(propagation) (propagation of messages, col. 8, line 62)** a broadcast path generation packet **(messages)** for each generated broadcast path out **(see from A to B and from A to C in Fig. 5A)** from the source switch **(A)** to remaining switches **(B,C)** in the switching mesh **(Fig. 5A)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine broadcasting a broadcast path generation packet for each generated broadcast path out from the source switch to remaining switches in the

switching mesh as taught in Chow, with Durinovic-Johri, in order to provide for a distributed network restoration.

With regard to claim 20, the combination of Durinovic-Johri and Chow discloses the method of claim 19.

Chow further discloses a link failure **(see X over link in Fig. 5A)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine broadcasting a broadcast path generation packet for each generated broadcast path out from the source switch to remaining switches in the switching mesh as taught in Chow, with Durinovic-Johri, in order to provide for a distributed network restoration.

10. **Claims 21 and 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Durinovic-Johri and Chow as applied to claim 19 above, and further in view of Hashimoto (US 2002/0116515).

With regard to claim 21, the combination of Durinovic-Johri and Chow discloses the method of claim 19. However, the combination fails to explicitly show a broadcast generation packet returns an acknowledgement packet.

Hashimoto discloses a broadcast **(broadcast)** generation packet returns an acknowledgement packet **(ACK) (an ACK/NACK ... after file data was transmitted to the clients by means of broadcast ..., para. [0062])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a broadcast generation packet returns an acknowledgement

packet as taught in Hashimoto, with Durinovic-Johri and Chow, in order to provide for polling and to ensure the receipt of data.

With regard to claim 22, the combination of Durinovic-Johri, Chow and Hashimoto discloses the method of claim 21.

Hashimoto further discloses a path invalid packet **(NACK) (an ACK/NACK ... after file data was transmitted to the clients by means of broadcast ..., para. [0062])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a path invalid packet as taught in Hashimoto, with Durinovic-Johri and Chow, in order to provide for polling and to ensure the receipt of data.

Allowable Subject Matter

11. Claims 4-7,9,10,15-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RW

BW
July 7, 2007

Robert W. Wilson

EDAN ORGAD
PRIMARY PATENT EXAMINER

Edan Orgad 7/18/07